

Reprinted from
The British Journal of Experimental Pathology,
1915, Vol. VI, p. 201.

P.3759

/66

A USEFUL PRESERVATIVE FOR WHOLE BLOOD.

A. H. BAKER,

Assistant, Wellcome Physiological Research Laboratories, Beckenham, Kent.





A USEFUL PRESERVATIVE FOR WHOLE BLOOD.

A. H. BAKER,

Assistant, Wellcome Physiological Research Laboratories, Beckenham, Kent.

Received for publication June 26th, 1925.

IN connection with investigations into poultry diseases, it was necessary to test fowls' blood for agglutination to *B. pullorum*, which is the causal organism of bacillary white diarrhoea in chickens. Sterile tubes were sent to poultry-keepers, in which samples of blood from the suspected hens would be returned to the laboratory. The blood is taken by making a small cut in the wing vein and allowing the drops of blood to run across the feathers and into the tube. The weather was warm, and the blood samples received at the laboratory were in many cases putrid and useless for test.

Mr. Dalling, the Head of the Veterinary Department, asked me to try the effect of various antiseptics, and mercury biniodide and formalin from 1/400 to 1/1000 were tried. The biniodide caused hæmolysis in the tubes and did not restrain the growth of contaminating organisms. In the tubes of blood containing formalin no satisfactory separation of serum took place. Both these proved unsuitable.

Boric acid was next tried at dilutions varying from 1/100 to 1/500. In all the tubes containing fowls' blood (which had during bleeding come into contact with the feathers) and the given dilution of boric acid, the separation of serum overnight was good; no hæmolysis occurred until the fourth day or later. No cloudiness due to the growth of contaminating organisms was visible until the sixth or eighth day, and the agglutinating titre for *B. pullorum* remained constant during six days after which the experiment was concluded.

The small tubes, which contain when full about 2.5 c.c. of blood, are sent out containing each 0.1 c.c. of a 5 per cent. solution of boric acid in saline

solution. If the poultry-keeper succeeds in filling the tube with blood, the concentration of boric acid is $1/500$; if he succeeds in obtaining only a few drops the concentration of the boric acid is about $1/100$.

The method has been in use for some months. All tubes returned by poultry-keepers now permit of satisfactory agglutination testing.

CONCLUSION.

Fowl-blood will travel safely for several days through the post, and permit a satisfactory agglutination test on its arrival if the boric acid content of the tube be between $1/100$ and $1/500$.

I have to thank Mr. Dalling, M.R.C.V.S., the Head of the Department, for suggesting this work and arranging for my carrying it out.

It is probable that so simple and useful a method has been used elsewhere, but I have not been able to find any reference to it.

Note.—Dr. Parish allows me to say that he has tested the effect of boric acid on sera to be used for the Wassermann reaction. He finds that the addition of 0.1 c.c. of a 5 per cent. solution of boric acid to each 2.5 c.c. serum does not in any way interfere with the result of the test. The boric acid has not been added to whole blood, but presumably the method will be satisfactory.



